

REMARKS

This application has been reviewed in light of the Office Action dated August 13, 2003. Claims 29, 30, 41, 42, 49, and 50 are pending. Claims 1-28, 31-40, and 43-48, of which Claims 1-28, 31, 32, 34-40, 43, 44, and 46-49 were previously withdrawn from consideration, have been canceled, without prejudice or disclaimer of the subject matter presented therein. Applicant reserves the right to include those claims in a subsequent divisional application. Claims 29, 30, 41, 42, and 49 have been amended to define more clearly what Applicant regard as the invention. Claim 29 is in independent form. Favorable reconsideration is requested.

The Office Action requires formal drawings conforming to the drawing changes filed on February 5, 2001, and also requires that Fig. 11 be labeled "Prior Art". Submitted herewith are corrected formal drawings in compliance with these requirements.

The Office Action also objected to the Abstract as not being directed to the claimed invention. The Abstract has been amended above as deemed necessary to overcome this objection. Accordingly, withdrawal of the objection to the Abstract is respectfully requested.

The title has been amended to be more descriptive, as required in the Office Action.

Claims 29, 30, 33, 41, 42 and 45 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,239,809 (Lampkin et al.).

Without conceding the propriety of this rejection, Claims 33 and 45 have been canceled, thereby rendering their rejection moot.

As amended, independent Claim 29 recites an electron-emitting device manufacturing method comprising a gas removal step of removing a gas dissolved in a liquid containing a formation material of an electroconductive film in which an electron-emitting area is to be formed, and a temperature adjusting step of adjusting a temperature of the liquid from which the gas is removed. A droplet discharge step discharges droplets of which the temperature is adjusted by droplet discharge means in an ink jet manner while controlling relative positions of the droplet discharge means for discharging droplets of the liquid and a substrate on which the electroconductive film in which the electron-emitting area is to be formed, is formed, thereby applying the droplets to a predetermined position on the substrate.

A notable feature of Claim 29 is that the temperature of a liquid from which a gas is removed is adjusted, and droplet discharge means discharges the droplet of the adjusted temperature onto a substrate in an ink jet manner to apply the droplet thereto, for forming an electroconductive film for forming an electron-emitting area on the substrate. By virtue of these features, the liquid droplet can be applied accurately to a predetermined position on the substrate from the droplet discharge means, thereby enabling an electron-emitting device to be produced with highly reproducible electron-emitting properties.

Lampkin et al. relates to forming films of materials which are component layers of solar energy conversion devices. A substrate is heated while being sprayed with

solutions which react on the heated surface to form a particular film. The spray is projected at an angle to control upstream flow and confine film formation to the substrate panel portions most suitable for forming the film.

At col. 7, lines 6-11, relied on in the Office Action, Lampkin et al. refers to spray booth 16 imposing one of the largest heat loads on the system. Careful regulation of the air flow is required for controlled conditions. The inlet gas flow may be minimized by using the exhaust system 48 to augment the inlet gas for vapor dilution and exhaust temperature control. At col. 7, beginning at line 51, Lampkin et al. states that spray nozzle 40 may be tilted with respect to a vertical point downstream relative to a substrate 20 movement, col. 12, lines 24-30 refers to a solution containing a tin salt in an organic solvent prepared for spray deposition over a surface, and adding a fluorine-containing compound as a dopant to obtain a very low sheet resistivity, and col. 14, beginning at line 10, refers to spray depositing at least one layer of a semiconductor material over a tin oxide electrode layer. Also, col. 5, lines 15-23, Lampkin et al. refers to a consistent surface temperature during film formation. Heat being supplied to the surface is removed by air flowing over a glass surface, by vaporization of various solvents which carry film-forming materials, and chemical reactions in which specific films are formed. A large capacity heat source must be used which is capable of a heat input to the glass substrate at a rate and in an amount approximately the heat removed from the substrate.

Applicant respectfully submits that, even if Lampkin et al. be deemed to teach the foregoing features, nothing has been found, or pointed out, in Lampkin et al. that

would teach or suggest a temperature adjusting step of adjusting a temperature of a liquid from which a gas is removed, and a droplet discharge step which discharges droplets of which the temperature is adjusted by droplet discharge means in an ink jet manner, for applying the droplets to a predetermined position on the substrate, as recited in Claim 29. For these reasons, Claim 29 is believed to be clearly patentable over Lampkin et al. Accordingly, withdrawal of the rejection of that claim is respectfully requested.

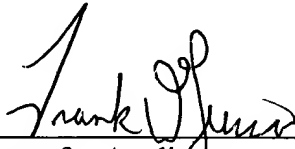
A review of the other art of record, has failed to reveal anything which, in Applicant's view, would remedy the deficiencies of the art discussed above as a reference against the independent claim herein. That claim is therefore believed patentable over the art of record.

The other claims in this application are each dependent from independent Claim 29 discussed above and are therefore believed patentable for the same reasons as is Claim 29. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration or reconsideration, as the case may be, of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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